

Abstract

PORTO, Kaira M. Relationships between content and teaching methods with a view to developing conceptual systems: contributions in light of historical-cultural psychology and historical-critical pedagogy. 2022. 358f. Thesis (Doctorate in School Education). Postgraduate Program in School Education. São Paulo State University (Unesp), Faculty of Sciences and Letters, Araraquara, SP. 2022¹.

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This thesis summary deals with a doctoral research project of a theoretical-conceptual nature that set out to investigate the relationships between content and form of teaching and the formation of conceptual systems in light of historical-cultural psychology and historical-critical pedagogy.

In the writings of Vygotsky (2001, 2006), there are statements about the importance of understanding the process of concept formation for school education. The need for studies that seek to understand the relationship between teaching and the internal development process of concepts in children's consciousness. In the same vein, Martins (2013), based on the propositions of historical-cultural psychology and historical-critical pedagogy, affirms the importance of this process for psychic development and the role assigned to school education.

Thus, the thesis in question starts from the following research problem: how does school teaching promote the formation of conceptual systems in

¹ The thesis (doctorate) was developed in the Postgraduate Program in School Education at Universidade Estadual Paulista – UNESP/SP, under the supervision of Prof. Juliana Campregher Pasqualini, PhD, with financial support from the Coordination for the Improvement of Higher Education Personnel (CAPES).

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students? According to Vygotsky (2001, 2006), the formation of conceptual systems corresponds to a long development process, one of the main aspects of which is the development of ways of generalizing reality. Furthermore, this author states that psychic functions constitute an interfunctional system, such that their development and the reorganizations that occur are fundamental aspects of the development of conceptual thinking about reality. Thus, studying how school teaching promotes the formation of conceptual systems in students requires understanding how generalization structures develop, that is, the regularities of the process of giving meaning to reality in different periods of an individual's life. It is in light of this observation that the ontogenetic development of the concept formation process with school education is taken as the object of analysis in the research presented in this thesis. The goal is to analyze the regularities of the process of conceptual system formation with the teaching process, emphasizing the relationships between content and teaching methods that promote the development of students' thinking.

According to Vygotsky (2001), the meaning of a word is a generalization. Thus, the development of meanings is linked to the development of modes of generalizing reality based on words and concepts. The specific mode of generalizing reality represents the most advanced stage in this development. In *Thinking and Language*, Vygotsky (2001, p. 295) states, "The decisive, basic, and essential aspect of the psychological nature of the word is that it represents a generalization, an entirely different way of reflecting reality in consciousness. Without this, it ceases to be a word." The author also points out that, in his time, psychology was incapable of grasping the development of meanings and the transformations of the relationships between thought and word. Thus, the task was to understand the dialectical unity between social and individual consciousness. This thesis summary deals with a theoretical and conceptual doctoral research project that investigated the relationship between the content and form of teaching and the formation of conceptual systems in light of historical-cultural psychology and historical-critical pedagogy.

Vygotsky's writings (2001, 2006) emphasize the importance of understanding concept formation processes in school education and the necessity of studying the relationship between teaching and the internal development of concepts in children's consciousness. Similarly, Martins (2013), based on historical-cultural psychology and historical-critical pedagogy, affirms the importance of this process for psychic development and the role of school education.

Based on the works of Vygotsky (2001), Leontiev (2021), and Davidov (1988), the first chapter of this thesis asserts that psychological research into meanings cannot be separated from their movement within the system of consciousness. Or from the system of activities performed by the individual. Therefore, psychology is not responsible for studying meanings themselves, but rather for analyzing the process of attributing meaning to reality. This process has specific characteristics in different periods of ontogenetic development and occurs through the activities individuals perform in relation to other human beings.

However, analyzing the psychological aspects of conceptual thinking development requires understanding the movement of meaning in the objective knowledge system. In other words, it requires understanding the particularities of the human act of socially producing meanings and its historical and social development. Specifically, given the characteristics of the present historical moment, it is argued that the recovery of philosophical aspects is necessary for analyzing the subsequent psychological and pedagogical aspects of conceptual thinking development. These aspects have been identified as the objects of the present study.

Thus, it is noted that, for historical-dialectical materialist philosophy, the human act of knowing reality is an aspect of human ontological dynamics. In this way, it elucidates how the historical development of material production created needs for knowledge of the whole object. Thus, the development of knowledge and the underlying modes of generalization must be understood as a historically and socially determined process. The peculiar

feature of the concept is that it is an ideal reproduction of the movement of reality. This process penetrates the internal relations of the movement, revealing the genesis, structure, and development tendencies of objects and phenomena. In summary, it is argued that conceptual generalization presupposes the formation of a conceptual system that reveals the real interrelationships between the universal, the particular, and the singular.

Therefore, it is argued that recovering the historical and philosophical dimension of the process of knowing reality is fundamental to the debate on concept formation and school education. This is done to combat the educational and human formation projects engendered by capitalism. These projects obstruct access to knowledge of reality and impose limits on the holistic development of human beings. Furthermore, elucidating the concept of theoretical knowledge in historical-dialectical materialism is necessary for developing studies in Marxist pedagogical and psychological theories. This is important for warning against idealistic or mechanistic debates when dealing with the relationship between concept formation and school education.

When analyzing the didactic organization of teaching programs in his time, Davydov (1982) states that they considered generalization to be the recognition of common qualities in all objects of the same type or class. These properties are captured through empirical examination of the object. He criticizes this formal, logical conception of generalization and presents its limitations and implications for organizing school curricula and developing students' thinking. Thus, Davydov (1982, 1988) sought to develop a dialectical understanding of the psychological dimension of generalization. In light of these considerations, the first chapter of this thesis is devoted to the historical-dialectical materialist conception of knowing reality and, consequently, the human process of conceptualizing it.

After outlining the historical and ontological foundations of the process of generalizing and producing knowledge about reality, the next chapter explores the connections between historically produced knowledge and school education. To this end, the chapter draws on historical-critical pedagogy's

propositions that education should mediate the relationship between the individual and humankind (Saviani, 2013). According to this perspective, educational work enables individuals to appropriate historically accumulated knowledge. Thus, it is a mediating activity that "provokes transformations in individuals while advancing the universal development of humanity" (Galvão, Lavoura, & Martins, 2019, p. 59).

Thus, the question of "how to teach" cannot be answered without considering the teaching content, or what is being taught. "What to teach" and "how to teach" must be understood in relation to the subject, or recipient, of the educational process. In this sense, this thesis asserts that school education's role in developing students' theoretical thinking requires viewing content, form, and recipient as a dialectical unit that guides pedagogical work (Martins, 2013).

In the second chapter, when discussing the National Common Core Curriculum and counter-reforms in education recently, it is pointed out that the current stage of capitalism engenders an educational project devoid of knowledge. Taking the ontogenetic development of the concept formation process and its relationship with school education as its object of analysis clarifies that this educational project aims to prevent the socialization of systematized knowledge. As Duarte (2020, p. 36), "the socialization of scientific, artistic, and philosophical culture," and, on the other hand, it has consequences for the formation and development of students' meaningful image of the world. Furthermore, it proposes educational projects and initiatives that challenge this neoliberal project and advocate for an alternative educational model, which is integral to the broader struggle against the capitalist mode of production.

Chapters three and four are devoted to presenting the central psychological aspects of concept formation in historical-cultural psychology. First, the main psychological determinants of this process are discussed to elucidate concept formation as a developmental process that engenders transformations in the content and form of thought. These transformations

occur through the activities individuals perform when communicating with others, which are mediated by historically produced objectifications. Additionally, the affective-cognitive dimension of forming and developing the signified image of reality is addressed. This ensures that the process of signifying reality does not occur independently of the affective components that engender human activity.

Based on this elucidation, a new step is taken in the exposition process concerning the relationship between the ontogenetic development of concept formation and psychic development periods. It is thus argued that concept formation should be analyzed in relation to guiding activities because these activities engender the greatest potential for concept development in different life stages.

Note that this does not involve establishing fixed correspondences between periods of psychological development and modes of generalization. However, it is assumed that there is a need to understand the regularities of the process of appropriating meanings and the development of modes of generalization in relation to the general dynamics of child and adolescent development. Furthermore, this process is historically and culturally determined, so one cannot overlook the limits and pressures imposed by the present-day material conditions, which hinder not only concept formation but also, ultimately, the development of the conscious personality. Therefore, the fourth chapter presents analysis of the first year of life, early childhood, preschool age, school age, and adolescence.

Lastly, the final chapter presents initial summaries of the relationship between school education and the formation of conceptual systems. To this end, it establishes a dialogue between Davidov's propositions and those of historical-critical pedagogy regarding didactics.

Considering the relationship between the nature of theoretical knowledge and its logical systematization in the form of social consciousness and the formation and development of a meaningful image of reality—especially one constituted by conceptual systems—which permeates the entire

process of basic schooling. The need to analyze this issue in relation to the curriculum and didactic theory that guide the organization of teaching is evident. Based on analyses of studies on curriculum and didactics based on historical-critical pedagogy, it is concluded that this perspective provides solid, coherent foundations and elaborations for teaching in schools committed to developing students' conceptual thinking.

The fifth chapter also emphasizes the relationship between content and teaching methods, as well as the development of meaning-making processes through words, in relation to early childhood education and the early years of elementary school. The formation of elementary generalization structures, such as syncretism and complexes, in children's everyday activities is recognized. However, school education acts as a mediator between everyday and non-everyday spheres of life. Therefore, it is up to school education, beginning with early childhood education, to impart scientific, artistic, and philosophical knowledge.

According to historical-cultural psychologists and historical-critical pedagogues, teaching and learning have contradictory and inverse logical-methodological paths within a single, undivided movement (Galvão, Lavoura, & Martins, 2019). Thus, the foundations for transcending elementary generalization structures through concepts and forming conceptual systems must be established in earlier developmental stages. This concept is linked to Vygotsky's ideas about the zone of proximal development. In other words, the conditions for developing the ability to think conceptually about reality must be established before adolescence to gradually promote the development of mental operations and actions associated with conceptual thinking. Finally, it should be noted that conceptual generalization is a reference point for curriculum organization and knowledge transmission at all levels of education.

Therefore, starting from the problem of how the social environment is organized so that the concept is formed in students, it is stated that generalization is redefined in and by the activities that they perform through the mediation of teaching. Moreover, the formation of conceptual systems requires a dialectical

unity between content and form of teaching appropriate to the recipient of the educational process. This unity is defined by the articulation between the nature of theoretical knowledge and the regularities of the process of internalization of knowledge in the different periods of psychic development.

Finally, as Martins (2010, p. 84) states, it should be noted that "it is not the feeling that feels nor the thought that thinks; it is the person who feels and thinks, and it is on this totality that school education focuses at all organizational levels." Thus, the issue of the links between concept formation and school education should not be understood separately from the formation of the whole human being. It can therefore be concluded that the scientific, artistic, and philosophical knowledge taught in school, as well as the social relationships established there, affect not only the process of concept formation. They also impact the formation of students' social consciousness and personalities. 2001.